

1 of 23 JB

Form PTO 1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. IMMR-0013D (034701-007)	Serial No. 10/780,852
<b>Information Disclosure Statement by Applicant</b>		Applicant: Louis B. Rosenberg et al.	
(Use several sheets if necessary)		Filed: 02/19/2004	Group: 2628

**U.S. Patent Documents**

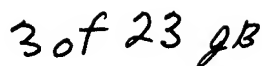
Init.	Document No.	Date	Name	Class	Subclass	Filing Date
/JB/	4,689,449	08/25/1987	Rosen			
/JB/	4,758,692	07/19/1988	Roeser et al.			
/JB/	4,857,881	08/15/1989	Hayes			
/JB/	4,994,669	02/19/1991	Stern			
/JB/	5,223,776	06/29/1993	Radke et al.			
/JB/	5,228,356	07/20/1993	Chuang			
/JB/	5,436,640	07/25/1995	Reeves			
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/JB/	5,589,854	12/31/1996	Tsai			
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/JB/	6,697,048	2/24/2004	Rosenberg et al.			

**Other Documents (Including Author, Title, Date, Pertinent Pages, etc.)**

/JB/	Millman, Paul A. et al., "Design of a Four Degree-of-Freedom Force-Reflecting Manipulandum with a Specified Force/Torque Workspace," Depart. Of Mechanical Engineering, 1991, pp. 1488-1493.
/JB/	Ouhyoung, Ming et al., "A Low-Cost Force Feedback Joystick and Its Use in PC Video Games," IEEE Transactions on Consumer Electronics, Vol. 41, No. 3, August 1995, pp. 787-194.
/JB/	Russo, Massimo Andrea, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," Dept. of Mechanical Engineering, MIT May 1990, 131 pages.
/JB/	Schmult, Brian et al., "Application Areas For A Force-Feedback Joystick," DSC-Vol. 49, Advanced in Robotics, Mechatronics, and Haptic Interfaces, ASME 1993, pp. 47-54.
/JB/	Tadros, Alfred Heikal, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators," Dept. of Mechanical Engineering, MIT February 1990, pp. 2-88.
/JB/	Yamakita, M. et al., "Tele Virtual Reality of Dynamic Mechanical Model," Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems, July 7-10, 1992, pp. 1103-1110.

Examiner	/Jeffery Brier/	Date Considered	09/24/2007
Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.			

[illegible]



Serial No.  
10/780,852

**Applicant:**  
Louis B. Rosenberg et al.

Filed:  
February 19, 2004

Group:  
2173

[illegible]

### Translation

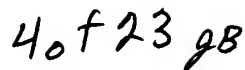
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/JB/	A	Microsoft Sidewinder FF Wheel review, 1999, <a href="http://www.flgamers.com/fl/apanel/view_articles.php?id=4">http://www.flgamers.com/fl/apanel/view_articles.php?id=4</a> .

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[illegible]



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(1 of 2)

PTO/SB/08A (10-01)

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<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			<b>Complete If Known</b>	
			Application Number	10/780,852
			Filing Date	February 19, 2004
			First Named Inventor	Louis B. Rosenberg
			Art Unit	2173
			Examiner Name	Unassigned
Sheet 1 of 3	Attorney Docket Number	IMMR-050/04US		

U.S. PATENT DOCUMENTS					
Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/JB/		6,422,941	7/23/2002	Thomer et al.	
/JB/		6,160,489	12/12/2000	Perry et al.	
/JB/		6,111,577	8/29/2000	Zilles et al.	
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/JB/		4,464,117	8/7/1984	Foerst	
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/JB/		4,262,549	4/21/1981	Schwellenbach	
/JB/		4,127,752	11/28/1978	Lowthorp	
/JB/		2,972,140	2/14/1961	Hirsch	

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
		JP	H2-185278		7/19/1990	Taito Corporation	
		JP	H4-8381		1/13/1992	Epoch Co. and Key- Planning Co.	
		JP	H7-24447		1/27/1995	Sega Corporation	
		JP	H5-192449		8/3/1993	Taito Corporation	

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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Kind Codes of U.S. Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Sheet 2 of 3

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First Named Inventor	Louis B. Rosenberg
Art Unit	2173
Examiner Name	Unassigned
Attorney Docket Number	IMMR-050/04US

### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
		CALDER, "Design of A Force Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.
		KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
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		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1</i> , ASME 1994.
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 <sup>nd</sup> Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
		LAKE, "Cyberman from Logitech," at <a href="http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html">http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html</a> , 1994.

Examiner Signature	Date Considered
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Sheet	3	of	3

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS		
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		*Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part no. C-25502, Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).
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		SCANNELL, "Taking a Joystick Ride," <i>Computer Currents</i> , Boston Edition, Vol. 9, No. 11, November 1994.
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		NOLL, "Man-Machine Tactile," <i>SID Journal</i> , July/August 1972 Issue.
		ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," <i>Ph.D. Dissertation</i> , Stanford University, June 1994.

Examiner Signature	/Jeffery Brier/	Date Considered	09/24/2007
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Sheet 1 of 8

### Complete If Known

Application Number	10/780,852
Filing Date	February 19, 2004
First Named Inventor	Louis B. ROSENBERG
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Examiner Name	Unassigned
Attorney Docket Number	IMMR050/04US

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Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/JB/		6,057,828	05-2000	Rosenberg et al.	
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/JB/		5,384,460	01-1995	Tseng	
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/JB/		5,262,777	11-1993	Low et al.	
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/JB/		<del>5,210,948</del>	<del>06-1993</del>	<del>Mitchell et al.</del>	
/JB/		5,209,131	05-1993	Baxter	
/JB/		5,204,824	04-1993	Fujimaki	
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/JB/		5,116,180	05-1992	Fung et al.	
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/JB/		5,095,303	03-1992	Clark et al.	
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/JB/		5,088,046	02-1992	McMurtry et al.	
/JB/		5,076,517	12-1991	Ferranti et al.	

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/JB/		5,072,361	12-1991	Davies et al.	
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/JB/		4,677,355	06-1987	Baumann	
Examiner Signature	/Jeffery Brier/		Date Considered	09/24/2007	

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	10/780,852
Filing Date	February 19, 2004
First Named Inventor	Louis B. ROSENBERG
Art Unit	2173
Examiner Name	Unassigned
Attorney Docket Number	IMMR050/04US

Sheet 4 of 8

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Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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**INFORMATION DISCLOSURE  
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Sheet 5 of 8

**Complete If Known**

Application Number	10/780,852
Filing Date	February 19, 2004
First Named Inventor	Louis B. ROSENBERG
Art Unit	2173
Examiner Name	Unassigned
Attorney Docket Number	IMMR050/04US

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>2</sup>	Number <sup>4</sup>	Kind Code <sup>3</sup> (if known)			
		EP	0085518	A1	08-1983		
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/780,852
		Filing Date	February 19, 2004
		First Named Inventor	Louis B. ROSENBERG
		Art Unit	2173
		Examiner Name	Unassigned
		Attorney Docket Number	IMMR050/04US
Sheet	6	of	8

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
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			09/24/2007

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Sheet 7 of 8

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Art Unit	2173
Examiner Name	Unassigned
Attorney Docket Number	IMMR050/04US

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

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Examiner Signature	/Jeffery Brier/	Date Considered	09/24/2007
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Sheet 8 of 8

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Application Number	10/780,852
Filing Date	February 19, 2004
First Named Inventor	Louis B. ROSENBERG
Art Unit	2173
Examiner Name	Unassigned
Attorney Docket Number	IMMR050/04US

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

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Examiner Signature	/Jeffery Brier/	Date Considered	09/24/2007
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		Group Art Unit			
Examiner Name					
Sheet	1	of	8	Attorney Docket Number	IMMR-050/04US

U.S. PATENT DOCUMENTS					
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			First Named Inventor	Louis B. ROSENBERG	
			Group Art Unit		
Examiner Name					
Sheet	2	of	8	Attorney Docket Number	IMMR-050/04US

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Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Office <sup>1</sup>	Number <sup>2</sup>	Kind Code <sup>3</sup> (if known)		
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